

Appln No. 10/355,490

Amdt date April 14, 2004

Reply to Office action of February 18, 2004

REMARKS/ARGUMENTS

Claims 37 to 71 are pending in the application. Applicant has withdrawn claims 1 to 36, amended claims 37 and 38, and added new claims 39 to 71.

No new matter has been added by these amendments. The claims have been amended to insert the limitations from original claims 1 to 36 therein. Accordingly, Applicant respectfully requests entry of the amendments.

The Examiner rejected claims 37 and 38 of the application under 35 U.S.C. §102(b) as anticipated by either Boucher et al. (U.S. Patent No. 3,926,556) or Copa, et al. (U.S. Patent No. 4,226,747). Applicant respectfully traverses these rejections in light of the current amendments.

First, the Boucher, et al. reference nowhere discloses a device or method for urging processed liquid away from the walls of the apparatus. Accordingly, Applicants amendments have obviated the rejections over Boucher, et al. with regard to independent claims 37 and 38. Applicant therefore respectfully requests that the Examiner withdraw the novelty rejection.

Second, with regard to the rejection over Copa, et al. Applicants submit that nowhere do Copa, et al. ever discuss methods of urging the material to be treated away from the walls of the exposure region.

For example, the only "gas nozzle described in the Copa, et al. device is shown in Figure 4 and described in column 4 of the Copa, et al. patent. However, the gas nozzle and flow described by Copa, et al. in Figure 4 and in the section of text is meant to contain a plasma not the material to be treated. Indeed, as

Appln No. 10/355,490

Amdt date April 14, 2004

Reply to Office action of February 18, 2004

shown in the self-same Figure 4, the collection drain (8) is positioned below the gas flow. Accordingly, the sample to be treated must traverse through the gas flow (3) to be collected in the drain (8). Moreover, the direction of the gas flow (3) being perpendicular to the direction of the sample spray would tend to push the fluid sidewise along the chamber and into the side walls. Moreover, concerning this structure Copa, et al. write:L

"In a further modification depicted in FIG. 4 . . . A gas 3, which surrounds the plasma 4, can be injected into the reactor through the rear reflector at point 5. "

(Copa, et al., col. 4, lines 20 to 26.)

From this quote it becomes clear that the reason the Copa, et al. device does not serve to keep the sample fluid off the walls is simply because the gas flow is meant for an entirely unrelated purpose, namely to contain the plasma. Indeed, by its very nature a plasma requires containment to stay in a plasma form. In effect, a plasma is a super-heated gas. In this case gas is heated by a laser focused in the central region of the chamber. Gas must be constantly injected into the chamber to resupply and contain the plasma or it would extinguish. Accordingly, nowhere does the Copa, et al. reference even discuss a process or apparatus to keep the sample from impinging the walls of the apparatus during transit, much less teach or suggest the importance of such a system for the non-destructive treatment of a sample.

Appln No. 10/355,490

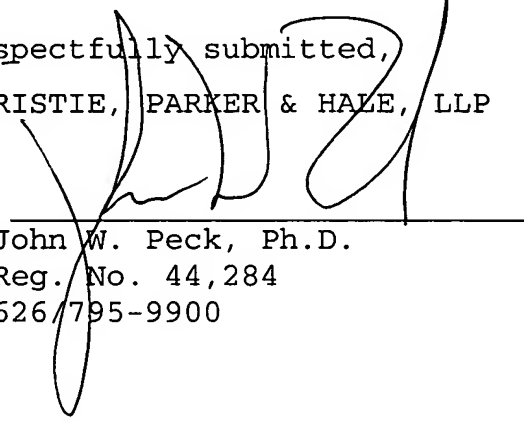
Amdt date April 14, 2004

Reply to Office action of February 18, 2004

Accordingly, Applicant submits that the independent claims 37 and 38 as well as dependent claims 39 to 71, which depend thereon, are all in condition for allowance. However, the Examiner is kindly requested to call the undersigned attorney should he deem any claim presently in the application unpatentable.

Respectfully submitted,
CHRISTIE, PARKER & HALE, LLP

By


John W. Peck, Ph.D.

Reg. No. 44,284

626/795-9900

JWP/jwp

SYB IRV1076295.1--*-04/14/04 3:55 PM